

PATENT ADVISORY PANEL PROGRESS REPORT

to the
Federal Council for Science and Technology

June 1964

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Patent Advisory Panel

Established under the Federal Council for Science and Technology by the President's Memorandum and Statement of Government Patent Policy dated October 10, 1963

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SUMMARY

The President's Memorandum and Statement of Government Patent Policy dated October 10, 1963, provides for the establishment of a Patent Advisory Panel under the Federal Council for Science and Technology. The purpose of the Patent Advisory Panel is to develop guidelines for implementing the Policy, provide guidance in the distribution of invention rights, encourage the acquisition of data for use in policy review, and make recommendations for the use and exploitation of government-owned patents. The Federal Council acted to establish the Patent Advisory Panel in November of 1963, and the Panel held its first meeting on January 24, 1964.

The Panel established working groups, or subcommittees, to investigate and study particular areas of government patent policy and management, and to report to the Panel recommendations for its consideration and approval. The function and scope of operation of each subcommittee has been defined, and the subcommittees are now actively engaged in carrying out the ambitious work schedules assigned. Although the work of the subcommittees is progressing at a very satisfying rate, the studies have not reached the point to date that formal recommendations can be made to the Federal Council. It is anticipated, however, that within the next few months, several recommendations will be made concerning the need for further interpretation of the President's Policy Statement and for implementation needed for consistent operation under it, particularly in regard to the Policy's effect on research contracts and grants with universities and other nonprofit institutions.

It is much too early to ascertain the effectiveness of the President's Policy Statement in achieving the fullest possible availability to the public of inventions resulting from government-sponsored research and development. Nevertheless, the effectiveness of the Policy in developing a consistent approach to government patent policy is very apparent. To date, the Department of Defense has issued a revision to the Armed Services Procurement Regulations to implement the President's Policy Statement, and the National Aeronautics and Space Administration and the Atomic Energy Commission have drafted revisions to their regulations which are presently undergoing review.

Part I The President's Statement of Government Patent Policy

During the past twenty years, there has been a great deal of discussion and controversy over what rights the government should acquire to inventions resulting from government-sponsored research and development. The importance of this question has been steadily increasing since World War II with the ever increasing, and now substantial, contribution the government is making to the research and development effort in practically every field of science and technology. The debate focuses on the pub-

lic interest, some contending that as the research is supported by public funds, rights to inventive results must be taken by the government and dedicated to the free use of the public, and that a practice of permitting such rights to rest in private hands endangers the public interest by furthering the concentration of economic power in derogation of a freely competitive economy. On the other side, the argument is made that the public interest is best served by providing incentives of exclusive rights to those who invent or discover, and that a practice of dedicating to all the results of the intellectual efforts of government contractors will not, in the long run, be beneficial to the public or the national interest.

The patent policies adopted by the federal departments and agencies have varied just as widely as the debate on this subject. The Department of Defense previously had a general "license policy" (allowing the contractor to retain title to inventions for commercial exploitation while reserving a license to the government for all governmental purposes). On the other hand, the Department of Agriculture generally has followed a "title policy" (taking all rights to inventions and dedicating them to the public through publication or free patent licensing). In addition, legislation passed on this subject to assist the agencies in performing their diverse missions has not served to clarify the overall situation. [Appendix A provides a condensation of the patent policies and practices of most of the federal agencies which were in effect at the time of the President's Statement of Government Patent Policy, and which concern the distribution of rights to inventions derived under research and development contracts.]

The Special Assistant to the President for Science and Technology was asked to study this problem of distribution of rights to inventions derived from federally-financed research and development to determine a common rationale that could be used to guide the agencies in the solution of the problem and to weave a common thread through the various agency policies. The Office of Science and Technology, working closely with some twenty federal agencies, studied this complex problem of identifying some general principles which would protect all aspects of the public interest. The result of this study and consultation was the Memorandum and Statement of Government Patent Policy from the President to the government agencies dated October 10, 1963, (Appendix B).

The Policy Statement recognizes four basic concepts as being applicable to a government-wide patent policy: first, that although it is not feasible to have a completely uniform patent practice throughout the government in view of the differing missions and statutory responsibilities of the several departments and agencies engaged in research and development, nevertheless there is a need for greater consistency; second, that a simple across-the-board "title" or "license" policy is not the answer to this difficult problem; third, that before the public can benefit from inventions derived from government-sponsored research and development, the inventions must be developed, exploited and placed before the public and used; and fourth, that the determinations as to the disposition of rights be made as early as practicable, preferably at the time of contract. The Policy Statement then sets forth guidelines for use by the agencies in determining the disposition of rights to inventions which take into consideration the need to stimulate inventors, the needs of the government, the equities of government contractors, and the interest of the general public.

The Policy Statement recognizes that there are situations where the interest of the public to have freely accessible the inventive results of government-financed research so overshadows all other considerations that the principal or exclusive rights should normally be taken by the government. Characteristic of these situations is where agencies contract for the development of products specifically intended for use by the public (as the development of material handling equipment for particular agricultural industries under Department of Agriculture contract), or where the use of the product will be required by governmental regulation (as an FAA requirement of an aircraft safety device). Other examples are where the contracts are for the development of products or processes directly related to the public health (as the development of a drug or prosthetic device under an NIH contract) or where the contract is in a field of science or technology in which there has been little significant experience outside of government funded research (as in the development of large launch vehicles for space exploration or atomic weapons). In such cases the acquisition of exclusive rights might place the contractor in a dominant position within the field.

In other situations, however, where a government contractor is expected to build upon existing knowledge in a field of technology directly related to an area in which the contractor has an established technical competence and a nongovernmental commercial position, the Policy Statement stipulates that the principal or exclusive rights to resulting inventions should normally remain in the contractor, subject to an irrevocable, nonexclusive, royalty-free license to the government throughout the world for all governmental purposes. This approach is intended to best serve the public interest by encouraging the contractor to direct his best personnel, know-how and experience towards solving the government's research problems, by recognizing the contractor's equities in the technical field, and by leaving the invention in the control of an organization qualified to further develop the invention into a commercially usable product in the shortest possible time. This situation is perhaps best illustrated by the typical Department of Defense contract which is intended to build upon a contractor's established technical competence in such fields as communications, fluid or aerodynamics, electronics, or transportation.

Where the principal or exclusive rights to an invention have been left with the contractor, and the contractor has failed to bring the invention to the point of practical application or has failed to make the invention available for licensing within three years after patenting, the Policy Statement stipulates that the government shall have the right to require the contractor to grant nonexclusive royalty-free licenses. The Policy Statement also recognizes the need for (1) flexibility to accommodate special situations, (2) deferring the determination on disposition of rights in some cases until the invention has been identified instead of at the time of contract, (3) compulsory licensing where the public necessity requires it, and (4) consideration of the foreign rights and foreign relations interests in connection with government-financed inventions.

In recognition of the fact that actual experience in operating under the Policy may indicate a need for modification or further implementation, the President's Memorandum sets forth a requirement for monitoring, recording and evaluating the practices of the agencies pursuant to the Policy Statement. Section 3 of the Statement places the responsibility for review-

ing the effectiveness of the Policy in the Federal Council for Science and Technology in consultation with the Department of Justice, and provides for the establishment of a Patent Advisory Panel under the Federal Council to (a) develop common guidelines for the implementation of the Policy and to provide guidance in the distribution of invention rights, (b) encourage the acquisition of data by the agencies to serve as a basis for policy review, and (c) make recommendations for advancing the use and exploitation of government-owned domestic and foreign patents.

Part II Organization and Operation

At the November 7, 1963, meeting of the Federal Council for Science and Technology, the Federal Council acted to establish the Patent Advisory Panel pursuant to the President's Statement of Government Patent Policy issued on October 10, 1963. Shortly thereafter, the Chairman of the Federal Council invited the heads of the federal departments and agencies having an interest in federal patent policy to designate a representative from their agency to serve on the Panel. Nominations were received from twenty agencies, and with the addition of the Commissioner of Patents and a representative from the Office of Science and Technology, the Patent Advisory Panel has a membership of twenty-two (see Appendix C). The representative from the Department of Commerce, Dr. William W. Eaton, Deputy Assistant Secretary for Science and Technology, was appointed Chairman of the Panel.

At the first meeting of the Patent Advisory Panel on January 24, 1964, it was decided that because of the size and makeup of the Panel, and the wide variety of studies to be conducted, the best procedure was to form working groups, or subcommittees, to investigate and study particular areas of government patent policy and to report the results of the studies to the Panel for final approval and recommendation. The membership of each subcommittee would be selected from Panel members and experts in particular areas of interest from the departments and agencies most concerned with the subject matter. Following this concept of operation, the Panel appointed a Planning Subcommittee, chaired by the Panel Chairman, to serve as an executive or steering committee for the Panel.

The Planning Subcommittee, at the direction of the Panel reviewed the purpose and function of the Patent Advisory Panel as set forth in the President's Statement and recommended that the following subcommittees be formed to fulfill the functions of the Panel:

1. A University Grants and Contracts Subcommittee chaired by Mr. William J. Hoff, General Counsel of the National Science Foundation, for the purpose of studying the application of the President's Patent Policy Statement to the problems and special considerations encountered in the distribution of rights to inventions resulting from government-sponsored research grants and contracts with universities and other nonprofit organizations;

2. A Regulation Review Subcommittee chaired by Mr. Gordon A. Christenson, Assistant General Counsel for Science and Technology, Department of Commerce, for the purpose of reviewing and analyzing the regulations of all agencies and departments on a continuing basis to identify problem areas and issues to be considered by the Planning Subcommittee and the full Panel;

3. A Data Collection and Analysis Subcommittee chaired by Mr. Gayle

Parker, Office of the Assistant General Counsel for Patent Matters, NASA, for the purpose of fulfilling the Panel's functions of encouraging the acquisition of data to serve as a basis for policy review as defined in Section 3(b) of the President's Statement, and for the purpose of measuring the effectiveness of the Policy in the light of accumulated experience; and

4. A Domestic Patent Management Subcommittee chaired by Mr. Gerald D. O'Brien, Assistant General Counsel for Patent Matters, NASA, and a Foreign Patent Management Subcommittee chaired by Mr. Roland A. Anderson, Assistant General Counsel for Patents, AEC, for the purpose of studying the domestic and foreign areas in order to make recommendations for advancing the use and exploitation of government-owned domestic and foreign patents as proposed in Section 3(c) of the President's Statement.

The Patent Advisory Panel subsequently approved the establishment of the subcommittees, and also approved the appointment of a full-time Executive Secretary, Mr. James E. Denny, to handle all of the detailed affairs of the Panel and to coordinate the activities of the Panel by serving as secretary to the Panel and its subcommittees. In addition, the Executive Secretary was appointed as chairman of a Reports Subcommittee, which is responsible for preparing periodic and annual reports for the Panel.

Part III Subcommittees—Function and Status Report

A. Planning Subcommittee

The Patent Advisory Panel plans to meet approximately every three months to provide general guidance and direction to the subcommittees in the performance of their assigned work, to consider the recommendations presented to it by the subcommittees, and to make final recommendations to the Federal Council for Science and Technology. The Planning Subcommittee functions as a steering committee for the Panel and under its guidance assigns and coordinates the work of the other subcommittees. The Planning Subcommittee also considers and reviews the recommendations of the other subcommittees prior to their submission to the full Panel.

In addition to providing detailed guidance and direction to the other subcommittees, the Planning Subcommittee studies and makes recommendations in general policy areas, in areas generic to all subcommittee operations and in areas not specifically covered by the scope of work of any particular subcommittee. The specific areas presently assigned to the Planning Subcommittee for consideration and recommendation are:

1. The development of guidelines and implementations necessary for uniform interpretation of the Policy Statement by all agencies;
2. The development of procedures for issuing guidelines, implementations and interpretations (short of modification or revision) of the Policy Statement; and
3. The application of the Policy Statement where research is undertaken on a cooperative basis between government and industry, or between the United States Government and foreign governments or corporations.

B. Data Collection and Analysis Subcommittee

The President's Memorandum of October 10, 1963, states that a continuing effort should be made to monitor, record and evaluate the practices of the agencies pursuant to the Policy Statement, and the Statement in Section 3(b) assigns the Patent Advisory Panel the responsibility of

encouraging the acquisition of data by the agencies on the disposition of patent rights to inventions resulting from federally-financed research and development and on the use and practice of such inventions. The Data Collection and Analysis Subcommittee was established to perform these functions, and more specifically, to advise the Panel of the type of information presently available and to recommend the acquisition of data as is consonant with the needs and instructions of the Panel and its subcommittees. The Subcommittee will also evaluate and analyze the information collected and present the results to the Panel in an appropriate form in order that it can serve as a basis for review and development of government patent policy.

The Data Collection and Analysis Subcommittee concluded that two general types of information were needed; those data which are essential for immediate use by the Panel based on current patent policies of the agencies, and that which will be necessary for future use by the Panel to monitor and evaluate the agency practices after they have been modified to meet the requirements of the President's Patent Policy Statement. After analyzing the President's Statement to determine the data that would best reveal the type, size and practices of the agencies' patent operations, the Subcommittee recommended that statistics be obtained from every federal agency and department having a research and development program of the type likely to produce patentable subject matter.

The statistics are specifically designed to ascertain the following types of information on a recent yearly basis:

1. The number of U.S. and foreign patents to which the government received either title or license rights;
2. The size of the agencies' U.S. and foreign filing programs;
3. The number of invention disclosures received by the agencies, and the number thereof on which no patent protection is obtained;
4. The agencies' practice of publishing disclosures in lieu of patenting;
5. A breakdown of the agencies' patent operations on the basis of employee-initiated work versus contractor-initiated work; and
6. The size of the government's patent portfolio and the amount of licensing activity under these patents.

After approval of the Subcommittee's recommendation by the Patent Advisory Panel, a formal request was sent to thirteen departments and agencies asking that the statistics be collected for Fiscal Years 1963 and 1964.

C. Regulation Review Subcommittee

The purpose of this Subcommittee is to review the regulations of the federal agencies pertaining to the distribution of rights to inventions resulting from the agencies' research and development contracts. The reviewing activities of the Subcommittee will be restricted primarily to those regulations which have been, or are being, revised to conform to the President's Policy Statement. The unmodified regulations of the agencies will be reviewed only where a particular agency considers that their regulations presently conform and need no revision. The agencies will be encouraged to submit their regulations to the Subcommittee for review while in the draft stage, where possible, in order that the comments and recommendations of the Subcommittee can be taken into consideration before final agency approval. However, the reviewing process by the Subcommittee of regulations still in the draft stage is in no way intended to delay

the individual agency's normal progress in issuing revised regulations, nor is it intended to imply a requirement for Subcommittee approval prior to issuance of the regulations.

The Regulation Review Subcommittee intends to approach the reviewing process by first reviewing each agency's regulations individually to identify areas where, in the opinion of the Subcommittee, the regulations are either in conflict with the Policy Statement or fail to carry out its full intent, and secondly, by a simultaneous comparison of all regulations to identify areas where the regulations, although each conforming to the President's Policy Statement, appear to be in conflict with one another. The results of the Subcommittee's review will then be submitted to the Planning Subcommittee for further action.

D. University Grants and Contracts Subcommittee

The University Grants and Contracts Subcommittee was established to consider the problems especially applicable to the university contractor or grantee under the President's Policy Statement. Many aspects of the role played by the university in government-sponsored research have been discussed and considered by the Subcommittee, including the major contribution the university makes to research efforts in the fields related to the public health and welfare. Also considered have been the past patent practices of various agencies with the university grantee or contractor, the practices of some universities of assigning invention rights owned by them to patent management corporations, and of using the profits derived from patent rights to further causes of research and education.

The Subcommittee is presently approaching the problems of the university operation under the Policy Statement from a concept of approving a university patent policy which can be implemented through an agreement entered into with the university, much like the procedures presently used by the Department of Health, Education and Welfare or through individual contracts or grants. Using this approach, the Subcommittee will finally submit a twofold recommendation to the Planning Subcommittee and ultimately to the Panel, comprising:

1. A general statement of the policy of using the approved university patent policy concept for permitting the university to take principal or exclusive rights to inventions resulting from government research grants and contracts at the time of contracting under the provisions for special situations in Section 1(c) of the President's Statement; alternatively, the government to take principal or exclusive rights to the inventions or make a determination as to disposition of the rights after the inventions are disclosed; and

2. Criteria for the guidance of agencies in approving university patent policies which can be used as a basis for policy agreements with the universities.

In addition to the above, the future work of the Subcommittee is to include:

1. A recommendation of steps to be taken to assure the coordination of agency regulations governing the determinations to be made under the provisions of the Policy Statement with respect to research supported under approved institutional patent policies;

2. Recommendations on the eligibility of nonprofit organizations (other than universities) to secure patent rights under approved policies of the

type permitted universities, and on criteria for use in determining which organizations are eligible, if any; and

3. Recommendations concerning the treatment of inventions resulting from fellowship and traineeship programs supported by the government, and from university research jointly sponsored by the government and other organizations.

E. Domestic Patent Management Subcommittee

Until comparatively recently, federal agencies had adopted the practice of dedicating government-owned patents to the public, or issuing royalty-free licenses under the patents upon request. Some critics of government patent policy have pointed to this procedure as failing to insure full use of inventions and repugnant to the inventive theory of the patent system, while others have hailed the practice as the only possible one in conformity with the public interest. The Domestic Patent Management Subcommittee has been assigned the task of studying the possible alternative methods of using and exploiting government-owned patents in the United States, and of recommending the best procedures for encouraging the use of these patents and making their related technological advances available to the public to the fullest possible extent.

This Subcommittee has concluded that any thorough study of patent management must include not only the consideration of what is to be done with an issued patent in government ownership, but also a study of how and in what manner the rights come to the government initially. Accordingly, the studies of this Subcommittee would include the obtaining of rights under contract and under Executive Order 10096 (regulating the distribution of invention rights between the government and its employees), and the agency practices of following up on these rights, appraising their value and the methods selected to protect them. The Subcommittee has therefore decided to embark upon a basic study of these various areas through the use of task or study groups which will investigate particular segments of domestic patent management and report their findings and recommendations to the Subcommittee for consideration. The following areas have been assigned to study groups for investigation:

1. Effective methods for identifying and obtaining invention disclosures, including consideration of recommended contract clauses, regulations requiring identification and disclosure, and the desirability of developing model contract follow-up procedures for agency guidance;

2. Effective methods of evaluating invention disclosures once identified and of protecting the government's rights or interests therein, including consideration of criteria for use in evaluating the government's interest in the inventions and the technological value thereof, and consideration of the types of protection to be obtained (as publication in lieu of patenting, defensive patenting for government use only, and offensive patenting to include agencies' licensing programs);

3. Consideration of methods for fostering the fullest public use and exploitation of the patents owned by the government, including studies of the size of the government's patent portfolio, the licensing practices of the various agencies and authorities which the agencies presently have for licensing; and

4. The management of inventions and patents to which title has been retained by government contractors under the President's Policy Statement, to include a study of the problems of identifying such patents and

obtaining confirmatory licenses thereto. This study group will also give consideration to sample confirmatory license agreements having terms regarding the working of inventions and compulsory licensing, agency policies and practices concerning periodic reporting by contractors on commercial use, and procedures regarding a contractor's hearing after issuance of an order to show cause when the invention has not been placed into use.

F. Foreign Patent Management Subcommittee

Of all areas of government patent policies and practices, perhaps the one area in which the least effort has been made is the area of protection and exploitation of government-owned inventions in foreign countries. With the exception of the Atomic Energy Commission's rather substantial foreign filing program and the Department of Defense program under informal mutual filing arrangements with the defense departments of Canada and the United Kingdom, only a relatively few patents have been obtained in foreign countries by the other government agencies. It may be increasingly important for the United States to consider the possible effect continued inaction in this area will have on our national interest, particularly in view of recently increased activities in joint research efforts between countries, military assistance programs, military and industrial export programs, and programs for technical and industrial assistance to underdeveloped countries. Consideration must also be given to the effect foreign patent rights and their use may have on other United States economic interests in foreign countries.

It is the primary purpose of the Foreign Patent Management Subcommittee to investigate these areas and to recommend appropriate patent policies and programs that should or could be undertaken by the government to protect United States interests abroad. The Subcommittee decided that its work should be grouped into phases, the initial phase being a study of the various factors that should be considered before recommendations could be made. Such factors would include:

1. The present policies and practices of the agencies in obtaining foreign rights to inventions from government employees and contractors, and the use presently being made of such rights by the agencies;
2. The foreign patent rights potentially available to the government and the possible uses of these rights in furthering United States interests; and
3. The present policies and practices of foreign governments in obtaining foreign patent rights and the uses made of these rights as they affect the United States.

Several members of the Subcommittee were assigned to report on various segments of the studies to be conducted, and to date, the study of U.S. policies and practices in obtaining and using foreign patents is well advanced.

Part IV Problems of Interpretation and Implementation

In the four months since the first meeting of the Patent Advisory Panel on January 24, 1964, the Panel has organized itself into working subcommittees, the mission and scope of operations of the subcommittees have been defined, and ambitious work schedules have been adopted by the subcommittees. Although the work has not progressed to the point that the Panel is prepared to present formal recommendations to the

Federal Council, the progress to date has revealed problem areas which indicate that there is a definite need for further interpretation and implementation of the Policy in order to insure consistent operation and interpretation thereof by the federal agencies.

The working experience of the subcommittees has revealed that various agencies have placed different interpretations on the meaning of certain key phrases found throughout the Policy Statement. It is believed that unless additional guidance is given, this problem of proper interpretation would only become exaggerated if left to the unguided judgement of the hundreds of contracting officers throughout the government. The following are examples of some of the key phrases which need further interpretation:

1. The phrase "for exploration into fields which directly concern the public health or public welfare" found in Section 1(a)2 of the Policy;
2. The phrase "in a field of science or technology in which there has been little significant experience outside of work funded by the government, or where the government has been the principal developer of the field" found in Section 1(a)3;
3. The phrase "exceptional circumstances" found in the terminal portion of Section 1(a), which may allow an agency to leave principal or exclusive rights to inventions with a contractor at the time of contract even when the contract falls within the criteria set forth in paragraph 1-4 of Section 1(a), and the phrase "special situation" found in Section 1(c), which may allow a contractor to acquire, at the time of contract, greater rights than a nonexclusive license to inventions, even when the contractor does not have an established nongovernmental commercial position of the type defined in Section 1(b); and
4. The definition of "governmental purpose" in Section 4(f) which has been interpreted by some as covering a state or municipal government performing a state or municipal function, and by others as covering a state or municipal government only while performing a federal function.

Apart from the apparent need for interpreting particular words or phrases used in the Policy Statement, experience has indicated that more definite guidelines or implementations are needed to insure equitable and consistent operation under the Policy.

APPENDIX A

Summary of Agency Regulations and Statutory Provisions Concerning Distribution of Patent Rights in Effect on October 10, 1963

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

I. Statutory Provisions

(National Aeronautics and Space Act of 1958, 42 U.S.C. 2457)

Subject to specific waiver authority, Section 305(a) of the Space Act vests in the United States exclusive rights to inventions made in the performance of any work under NASA contracts where the Administrator determines that:

"(1) the person who made the invention was employed or assigned to perform research, development, or exploration work and the invention is related to the work he was employed or assigned to perform, or that it was within the scope of his employment duties, whether or not it was made during working hours, or with a contribution by the government of the use of government facilities, equipment, materials, allocated funds, information proprietary to the government, or services of government employees during working hours; or

(2) the person who made the invention was not employed or assigned to perform research, development, or exploration work, but the invention is nevertheless related to the contract, or to the work or duties he was employed or assigned to perform, and was made during working hours, or with a contribution from the government of the sort referred to in clause (1)."

Sections 305(c) and (d) give the Commissioner of Patents authority to issue a patent to the Administrator of NASA, upon his request, on any application filed in the Patent Office covering an invention which appears to have significant utility in the conduct of aeronautical and space activities, when the facts indicate that the invention was made in the performance of a NASA contract. This action is subject, however, to an appeal to the Patent Office Board of Interferences and to the Court of Customs and Patent Appeals.

Section 305(f) allows the Administrator of NASA to waive any and all rights to the United States to an invention made in the performance of a NASA contract when he finds that to do so would serve the public interest. Waiver must be subject to the reservation of an irrevocable, nonexclusive, nontransferable, royalty-free license for the practice of such invention throughout the world by or on behalf of the United States or any foreign government pursuant to treaty.

Section 305(g) gives the Administrator authority to license patents held by NASA on behalf of the United States on terms and conditions established by the Administrator.

II. Procurement Regulations

(Title 41, Part 18, Code of Federal Regulations)

A. *Standard Contract Clause*

Section 9.101-2 of the NASA Procurement Regulations requires the use of a clause calling for reporting of innovations and inventions made in the performance of the contract where research, experimental, design, engineering or developmental work is contemplated. The "New Technology" clause, used in this type of contract, requires the contractor:

1. To provide a written report concerning each reportable item [meaning any invention, discovery, improvement or innovation, whether or not patentable] upon the making thereof [meaning conception or first actual reduction to practice] and designating whether the contractor considers the item to constitute an invention;

2. To conduct frequent periodic reviews of the work performed to insure all reportable items have been reported; and

3. To include this clause in all subcontracts where research, experimental, design, engineering or developmental work is contemplated, notify the contracting officer of these subcontracts, and obtain from the subcontractor a certification of compliance to the "New Technology" clause.

The "New Technology" clause provides for the following distribution of rights to reported inventions:

1. Every item reported which constitutes an invention shall be presumed to have been made by a person, and under the conditions described in Section 305(a), paragraphs (1) and (2) of the Space Act. Where the contractor designates the item as an invention, this presumption is conclusive unless the contractor submits, at the time of reporting, a statement demonstrating that the invention was not made under these circumstances. Where the contractor does not designate the reported item as an invention, but the Administrator determines it to be an invention, the above presumption shall be conclusive unless the contractor submits a statement demonstrating that the invention was not made under the circumstances of Section 305(a), paragraphs (1) and (2), within 60 days after notice of the Administrator's determination.

2. The contractor may file a statement of the type described in subparagraph (1) above, whether or not he files a petition for waiver. Whenever a statement is filed, the contractor will be notified of the Administrator's determination on whether the invention was made under the circumstances of Section 305(a).

3. Whenever an invention becomes the exclusive property of the United States, the contractor shall:

- (a) Inform the contracting officer of any present or prospective statutory bars to patenting, furnish upon request additional technical disclosure of the invention, and execute, or endeavor to secure execution, of all papers necessary for the filing and prosecution of a patent application; and

- (b) Receive a nonexclusive, irrevocable, royalty-free license under the invention.

The "New Technology" clause provides for the withholding from payment from the contractor the lesser of \$50,000 or 5% of the contract price for failure to comply with any provision of the clause.

B. Nonprofit Institution Clause

A separate clause is provided for contracts for basic and applied scientific research at nonprofit institutions of higher education or at nonprofit institutions whose primary purpose is the conduct of research. This clause, applicable to the prime contract and all subcontracts, states that any invention, discovery, improvement or innovation made in the performance of work under the contract shall be presumed to have been made under the conditions of Section 305(a), paragraphs (1) or (2), of the Space Act. The clause requires the contractor and subcontractors to report inventions made under the contract and to secure execution of all papers necessary for filing and prosecution of a patent application.

C. Product Improvement and Independent R&D Programs

Section 9.101-6 of the NASA Procurement Regulations provides that neither of the two clauses in paragraphs A, or B, apply to the contractor's product improvement program or independent research and development, even though supported under an overhead allowance, unless work to be performed under such programs is identified in writing in the contract.

D. Background Rights

Section 9.110 of the NASA Procurement Regulations provides a clause which precludes rights being implied to the United States under background patents covering end items furnished, or processes disclosed, under the contract, except for patents covering processes which were developed in the performance of the contract pursuant to an express requirement.

III. Patent Waiver Regulation

(Title 14, Part 1245, Subpart 1, Code of Federal Regulations)

The waiver regulations apply to all inventions made under NASA contracts under which the United States is entitled to all rights.

A. Inventions not Generally Eligible for Waivers

1. Inventions adapted for and especially useful in the development and operation of space vehicles; and
2. Inventions of basic importance in continued research toward the solution of problems of sustained space flight.

B. Inventions Eligible for Waivers

Except for inventions falling under A. above, a prima facie case that the interests of the United States would be served by waiver of title is established when:

1. The invention was conceived and constructively reduced to practice prior to, and independently of, the contract; or
2. The invention was made under the contract by a nonprofit institution and the contract does not call for the delivery of equipment or the development of processes; or
3. The invention has only incidental utility in the conduct of NASA activities and has substantial promise of commercial utility; or
4. The invention is directed specifically to a line of business of the contractor with respect to which the contractor's previous expenditure of

funds in the field of technology has been large compared to the funds for R&D work in the same field of technology under the contract.

Foreign rights to an invention will be waived in countries where NASA does not desire to file an application for patent.

Waivers will not be granted for inventions relating to atomic energy or special nuclear material except with the approval of AEC.

C. Voidability of Waivers

All waivers will be voidable for failure to comply with conditions concerning the filing and prosecution of patent applications and other special conditions imposed to protect the rights retained by the United States. Otherwise, waivers will not be voidable where the waiver relates to:

1. Inventions conceived prior to and independently of work under a NASA contract; or

2. Inventions which have been developed to the point of practical application prior to the request for waiver.

All other waivers will be voidable unless the contractor, on or before the end of the fifth year after patenting or the eight year after acceptance of the waiver, whichever is sooner, demonstrates that:

1. The invention has been developed to the point of practical application; or

2. The invention has been made available for licensing either royalty-free or at a reasonable royalty rate; or

3. There are circumstances justifying failure to comply with 1 or 2 above and justifying continuance of the waiver.

D. Reservation of License

All waivers shall be subject to the reservation of an irrevocable, non-exclusive, nontransferable, royalty-free license throughout the world by or on behalf of the United States or any foreign government pursuant to treaty or agreement.

E. License to Contractor

In each case where title is retained in the United States to an invention, the contractor will be granted a non-exclusive, irrevocable, royalty-free license to practice the invention with the right to grant sublicenses of the same scope to the extent the contractor was legally obligated to do so at the time of the contract.

IV. Patent Licensing Regulations

(Title 14, Part 1245, Subpart 2, Code of Federal Regulations)

A. Policy

The policy considerations in granting licenses are:

1. The interests of the United States are best served when NASA inventions are licensed and worked:

2. Nonexclusive licenses are preferred, but exclusive licenses may be desirable when additional incentive appears necessary to have the invention worked; and

3. No royalties will be charged by NASA.

B. Nonexclusive Revocable Licenses

Each NASA-owned patent which has not been worked [developed to point of commercial utility and offered to public in accordance with normal busi-

ness practice] is available for nonexclusive licensing during the first two years after the patent issues. The license is revocable if licensee fails to work the invention within the two year period.

C. Nonexclusive License for Term of Patent

A nonexclusive license for the term of the NASA patent will be granted on any invention which has been worked; provided the invention has not been dedicated to the public nor is the subject of an outstanding exclusive license. A revocable license may be converted to a license for term when it is shown that the invention has been worked.

D. Exclusive License

Each NASA-owned patent which has not been worked by the end of the second year after issuance is available for exclusive licensing. The terms of the exclusive license will be negotiated and the following factors will be considered in selecting the licensee:

1. Whether applicant is small business or in a labor surplus area;
2. Applicant's capabilities to undertake the industrial and market development required to work the invention; and
3. The amount of funds that applicant is willing to invest to develop the invention.

An exclusive license will be revocable if the licensee fails to use his continuing best efforts to work the invention.

ATOMIC ENERGY COMMISSION

I. Statutory Provisions

(Atomic Energy Act of 1954, 42 U.S.C. 2182-2201)

SECTION 151(a) forbids the issuance of patents on inventions useful solely in an atomic weapon, and revokes any patent previously granted having such sole utility. Section 151(b) excludes from the rights granted under all other atomic energy patents those which might be useful in an atomic weapon. Section 151(c) provides for private individuals reporting any privately developed inventions useful in the production or utilization of special nuclear materials or atomic energy and requires the Commissioner of Patents to provide the Commission access to all patent applications covering any such invention or discovery.

SECTION 152 provides that any invention useful in the field of atomic energy conceived or made in the course of or under any AEC contract or arrangement shall be the property of the Commission, subject to the waiver of such rights by the Commission.

SECTION 152 further provides that prior to the issuance of any patent for an invention or discovery useful in the production or utilization of special nuclear material or atomic energy, the applicant must file a statement under oath setting forth the full facts surrounding the making or conception of the invention or discovery and whether the same was made or conceived in the course of or under any contractual arrangement with the Commission, except that no statement need be obtained if the Atomic Energy Commission advises the Commissioner of Patents that its rights have been determined. Procedures are established for the determination of rights in the event the Commission files a direction with the Commissioner of Patents.

SECTION 153 gives the Commission authority to declare any patent to be affected with the public interest and to grant licenses under such patents if the invention is of primary importance in the field of atomic energy and licensing is required to effectuate the policies and purposes of the Commission. The owner of any patent so licensed is entitled to a reasonable royalty from the licensee for any use made of his invention.

SECTION 161(g) gives the Commission authority to acquire, purchase, lease and hold property, including patents, and to sell, lease, grant and dispose of such property on behalf of the United States.

II. Procurement Regulations

(Title 41, Part 9, Code of Federal Regulations)

A. Patent Rights Clauses

The Atomic Energy Commission Procurement Regulations provide for three basic contract patent clauses in Sections 9-9.5033 through 9-9.5055. A "Type A" clause is used when the work to be performed or material or equipment to be furnished is such that inventions that may be made probably will relate directly to, or concern some phase of the R&D work which AEC conducts or sponsors. The "Type A" clause states that:

1. The contractor will furnish complete information on any invention or discovery made or conceived in the course of or under the contract;
2. AEC will have the sole power to determine whether or not and where a patent application shall be filed and the disposition of rights thereto;
3. The contractor will obtain agreements from its employees in order to effectuate the determinations of the Commission, and will place similar patent rights clauses in all subcontracts; and
4. The contractor will obtain patent approval prior to the release or publication of scientific or technical developments made or conceived in the course of or under the contract.

A "Type B" clause will be used when the work to be performed or the material or equipment to be furnished by the contractor is such that any inventions that may be made probably will relate only incidentally (and not directly) to some phase of work conducted or sponsored by AEC and will relate to a field of work in which the contractor has an established industrial and patent position. The "Type B" clause is the same as the "Type A" except that it provides that the contractor shall receive at least a nonexclusive, irrevocable, royalty-free license under the invention, limited to manufacture, use and sale for purposes other than atomic energy.

The "Type C" clause is used where the work and the possible inventions under the contract meet the criteria set forth above for the "Type B" clause, and in addition, any inventions that may be made will probably result from routine development or production work by the contractor. The "Type C" clause is the same as the "Type A" except that it provides that the contractor shall receive a sole (except against the government), irrevocable, royalty-free license with the sole right to grant sublicenses under the invention, limited to the manufacture, use and sale for purposes other than atomic energy.

The criteria used to determine whether the contractor receives (1) no rights, (2) a nonexclusive license in other than the field of atomic energy, or (3) a sole license in other than the field of atomic energy, is the same that is used in selecting the type of clause to be placed in the contract.

Therefore, even though a "Type A" clause is placed in a contract, the contractor may receive a sole license if the particular invention meets the criteria of the "Type C" clause. In special cases where the contractor would ordinarily receive a sole license and the invention pertains more to the contractor's commercial field than to the field of atomic energy, the contractor may be given title to the invention with a sole license to the government in the atomic energy field, together with a nonexclusive license in all other aspects.

The distribution of patent rights resulting from research co-sponsored with foreign governments are negotiated on an individual basis. The general rule, however, is that the United States obtains title to U.S. patents subject to a license to the foreign government, the foreign government obtains title to patents issued in its country subject to a license to the United States, and rights to patents issued in third countries are negotiated, title usually going to the government of the loci of the invention with a license to the other government.

B. Right to File Applications

Anytime the contractor desires assurance of the right to file U.S. patent applications, the three types of patent rights clauses may include a statement that the contractor may file any application subject to security requirements.

In addition, when the work is to be performed at the contractor's own facilities, the three clauses may be modified to allow the contractor to elect to file patent applications at his own expense in the U.S. and in foreign countries selected by him, whereby the contractor retains:

1. A nonexclusive, irrevocable, paid-up license for all purposes in any U. S. applications filed; and

2. The title to any foreign applications filed subject to:

- a. A nonexclusive, irrevocable, paid-up license to the U.S. Government for governmental purposes with the right to grant licenses to foreign countries pursuant to treaty or agreement;

- b. The granting of nonexclusive royalty-free licenses to U.S. citizens and corporations for use in atomic energy, and the granting at reasonable royalties licenses to purchasers and users of products from such U.S. licensees, provided, that all other licenses by the contractor shall be at reasonable royalties, and provided further, that if after five years after issuance of the foreign patent, the contractor or his licensees cannot demonstrate the practical application of the invention in the foreign country, the contractor shall be required to grant licenses to others at reasonable royalties.

C. Background Patent Rights

The Procurement Regulations state that the three types of patent rights clauses are not intended to take rights to background patents of the contractor. Where background patent rights are deemed to be necessary, however, the regulations provide for the acquiring of such rights through negotiations with the contractor.

D. Waivers

The Atomic Energy Commission waives all rights to inventions made during certain types of arrangements arising from AEC services and materials generally available to the public. These waivers are granted for inventions resulting from:

1. The sale or distribution of stable or radioactive materials or from irradiation services publicly available (10 CFR 82);
2. The use of the NRTS Gamma Irradiation Facility (10 CFR 83); and
3. Access Permits (10 CFR 25.23(b)).

General waivers under the authority of Section 152 of the AEC act have been granted only for the following types of inventions:

1. Inventions made under equipment grants to educational institutions;
2. Inventions in apparatus and processes for production of fuel elements in contractor fuel fabrication facilities; and
3. Inventions defined in foreign patents filed in accordance with the procedures described in paragraph B. above.

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

I. Patent Regulations

(Code of Federal Regulations, Title 45, Subtitle A, Part 8)

A. *Distribution of Rights*

Inventions arising out of activities assisted by research grants must be promptly and fully reported to the head of the Department unit responsible for the grant, and:

1. Ownership and distribution of all invention rights shall be subject to the determination of the head of the Department unit; or

2. Ownership and distribution of domestic invention rights shall be left for determination by the grantee institution in accordance with the grantee's established policies and procedures (subject to a license in the United States), provided the head of the Department unit determines that the grantee's policies assure the invention will be made available to the public without unreasonable restrictions or excessive royalties. Where practicable, the United States shall reserve an option, for a prescribed period, to file foreign patent applications.

In the discretion of the Department unit head, the rights to inventions made during the term of a fellowship award may be determined in accordance with subparagraph 1. above, or in accordance with subparagraph 2. if the policies of the institution at which the research is performed have been approved. Rights to inventions resulting from research contracts with nonprofit institutions may be determined on a case-by-case basis in accordance with either subparagraphs 1. or 2. above; however, where such contracts are with other than nonprofit institutions, determinations of rights to inventions must be reserved in the Department unit head in accordance with subparagraph 1. above.

B. *Determination of Rights*

Rights in inventions not subject to disposition by the grantee's approved patent policy will be determined as follows:

1. If there is assurance that the invention will be effectively dedicated to the public or that any resulting patent will be available for royalty-free,

nonexclusive licensing, principal rights may be left to the grantee or contractor;

2. If the invention will be more adequately and quickly developed for widest use, and there are satisfactory safeguards against unreasonable royalties and repressive practices, principal rights may be left to the grantee or contractor for the term of the patent or a lesser period deemed adequate;

3. If the interests of a contributing government agency are paramount or when otherwise required in the public interest, the invention may be left with that agency for disposition; and

4. In all other cases, all domestic rights in the invention shall be assigned to the United States, unless the invention is of such doubtful importance or the government's equity is so minor that protection is not deemed to be necessary.

All dispositions of rights to an invention will be subject to a world-wide nonexclusive, irrevocable, royalty-free license to the government with power to sublicense for governmental purposes. In any case where principal domestic rights are retained by the government, an option for principal rights in other specified countries shall be reserved for the government.

II. PHS Patent Policy

A. *Acceptable Grantee-Institution Patent Policies*

A grantee-institution will be permitted to determine ownership and the manner of distribution of invention rights when the institution can assure that an invention will be either dedicated to the public or, if patented, will be made available for licensing without unreasonable restrictions or excessive royalties, and provided that:

1. The policy of the institution has been formally adopted and an administrative body has been established, or an official has been assigned, to carry out the policy;

2. Where the institution distributes invention rights between the institution and the inventor according to the equities, criteria are used which are similar to that used by the Federal Government under E.O. 10096;

3. Licensing on a conditional or restricted basis will be conducted only when exceptional circumstances require this practice in order to best serve the public interest; and

4. Royalties charged will be reasonable, and monies received generally will be applied to teaching and research functions and not be primarily directed to the inventor.

B. *Cancer Chemotherapy Industrial Research Contracts*

Because of the peculiar exigencies of the cancer chemotherapy program and the desire to use the resources of pharmaceutical and chemical firms with minimum delays, exceptions will be permitted to the general Department patent policies in negotiating industrial contracts under this program. These contracts may contain an alternative patent clause leaving the right to patent and exploit inventions made under the contract to the contractor, subject to limitations which assure the availability of (1) the results of the research and the right to disclose the results and (2) the inventions for development and use for health purposes on reasonable terms. Therefore, the alternative patent clause will contain the fol-

lowing limitations concerning inventions conceived or first actually reduced to practice in the course of the performance of the contract:

1. A requirement for reporting inventions and the filing of patent applications thereon, or contractor's election not to file patent applications;

2. A reservation of the right to disclose the invention when necessary in the public interest, after a waiting period of not less than six months to enable the contractor to protect the invention rights;

3. A reservation to the government of an irrevocable, nonexclusive, royalty-free license to practice the invention by or for the government throughout the world;

4. An agreement that the Surgeon General of the Public Health Service may determine that the public interest (with respect to supply, quality or price) requires that the invention be made available to others than the contractor and his licensee, and may request that the contractor, within a specified time, take steps to meet the public need, including licensing to others of the contractor's selection. If the contractor fails to meet the public need, the Surgeon General, after notice to the contractor and a hearing if requested, may dedicate the invention to the public or issue nonexclusive, royalty-free licenses to practice the invention for health purposes; and

5. The government has a right to require assignment of the invention rights to any country where the contractor elects either not to file, or after filing desires to discontinue prosecution.

DEPARTMENT OF DEFENSE

I. Procurement Regulations

(Armed Services Procurement Regulations, Section IX, Part 1)

A. License Clause

In order to take full advantage of the incentives of the American patent system to disclose and commercially exploit new ideas, and to use these incentives to secure American industry's unreserved participation in military R&D, the Department of Defense generally acquires a comprehensive license under inventions derived from research and development contracts sufficient for free use of the invention by or for the government, leaving title to the invention in the contractor. Therefore, except in certain situations (specified below) requiring other clauses, the license clause is used in every contract having as one of its purposes experimental, developmental or research work. This clause requires the contractor to:

1. Convey to the government an irrevocable, nonexclusive, royalty-free license to practice by or on behalf of the government each subject invention throughout the world, with the right to grant sublicenses to any foreign government or international organization for use in programs established by international agreement for mutual defense. The term "subject invention" is defined as any invention, improvement or discovery (whether or not patentable) conceived or first actually reduced to practice either in performance of the R&D work called for or required under the contract, or upon an understanding in writing that a contract would be awarded;

2. Furnish on subject inventions which reasonably appear to be patentable (a) a written disclosure after conception or first actual reduction to practice of each subject invention stating whether or not a U.S. patent application will be filed by the contractor, (b) annual interim reports listing

subject inventions, and (c) a final patent report listing all subject inventions;

3. Provide information, where the contractor elects not to file a U.S. patent application or changes his position after originally electing to file, on any present or contemplated publications disclosing the invention, and convey the entire right, title and interest in the invention to the government upon request, subject to a reserved nonexclusive, royalty-free license, and subject further to contractor's rights to file applications in foreign countries within specified periods of time;

4. Provide notification, where the contractor elects not to continue prosecution of a U. S. patent application, within sufficient time to allow the government to continue prosecution, and upon request, convey to the government the contractor's entire right, title and interest to the invention subject to the rights and reservations in subparagraph 3. above;

5. Convey, upon request, contractor's entire right, title and interest to the invention in each foreign country in which contractor elects not to file an application, subject to the reservation of a nonexclusive, royalty-free license with the right to grant sublicenses; and

6. Include a similar patent rights clause in any subcontract of \$3,000 or more having experimental, developmental or research work as one of its purposes.

The clause also has a provision authorizing the withholding from payment either 10% of the contract amount or \$5,000, whichever is less, for failure to comply with various provisions of the clause.

B. Title Clause

While the Department of Defense follows a general license policy, it recognizes that there may be some situations where it is desirable in the public interest to obtain full title to subject inventions, for example, where the work under the contract concerns (1) a new technological field where there is no significant nongovernmental experience to build upon and the inventions derived are likely to dominate the field, (2) coordinating and directing the work of others, or (3) fields directly related to the public health or safety and the availability of inventions for public use will not depend on patent incentives. Therefore, contracts having experimental, development or research work as one purpose and which fall in these situations, shall contain the title clause when approved by higher authority. The title clause:

1. Requires the contractor to assign all right, title and interest to subject inventions to the government;

2. Has substantially the same provisions as the license clause in regard to supplying information, making reports, withholding of payments, and including patent clauses in subcontracts; and

3. Permits the contractor, upon request, to file in any foreign country where the government does not file within specified times, subject to an irrevocable, nonexclusive, royalty-free license to the government with the power to grant sublicenses for use in behalf of the government and in furtherance of U.S. foreign policies, including licenses to U.S. citizens or corporations.

C. Foreign Contract

Where the contract calls for experimental, developmental or research

work as one purpose, and the work is to be performed outside the U.S., its possessions or Puerto Rico, the foreign patent clause is to be used. This clause gives the U.S. an irrevocable, nonexclusive, nontransferable, royalty-free license to any invention (whether or not patentable) conceived or made in performance of the R&D work called for under the contract. Under this clause, the contractor:

1. Shall submit a written disclosure of each invention after the conception or making thereof, and specify whether or not a patent application has been or will be filed and in which countries;

2. Shall give notification of (a) any present or contemplated publications, (b) each application filed, identifying the country and applications and providing a copy thereof, and (c) an intention to abandon any application; and

3. Has the exclusive right to file patent applications within a specified time period, and, upon request, will assign all right, title and interest in each country where the contractor does not, or elects not to, file or where contractor intends to abandon an application, subject to a reservation of a nonexclusive, royalty-free license in countries other than the contractor's own country and the U.S., with the right to grant sublicenses in such other countries.

D. Special Contract Provisions

1. *Atomic Energy*—In R&D contracts related to atomic energy, a clause is added to the patent rights clause which provides that, with respect to subject inventions related to special nuclear materials or atomic energy, AEC has the sole right to determine whether and where patent applications shall be filed, and the rights thereto.

2. *Civil Defense*—In R&D contracts related primarily to supplies or services intended for the general public for civil defense purposes, the license patent rights clause is modified to give the government the right to grant sublicenses to others under subject inventions for civil defense purposes.

3. *Contracts for NASA*—When the Departments are contracting for R&D work on behalf of NASA, the NASA patent rights clause will be used in the contract either exclusively or directed to the NASA portion of the work, if identifiable, when NASA requests that the clause be used.

4. *Space Contracts*—In contracts having as one of its purposes R&D work under a space program, the license patent rights clause is modified to give the government the right to grant sublicenses to others under subject inventions in the manufacture or operation of communication satellite systems.

5. *Personal Services*—A clause is used in personal services contracts which binds the contractor to the provisions of Executive Order 10096.

E. Exclusion of Inventions

Any invention which has not been actually reduced to practice and is covered by a U.S. patent issued or by a patent application filed, prior to the award of a contract, may be excluded from the provisions of a patent rights clause if one or more of the following circumstances are established:

1. The contractor has expended sums in developing the invention which are relatively large in comparison to the amount of the proposed contract;

2. The practicability of the invention has been established as by engineering design;

3. The invention covers a basic material and it is not the purpose of the contract to develop the material; or

4. The invention is useful only for military purposes and the contractor does not have facilities for furnishing the item in production quantities.

DEPARTMENT OF AGRICULTURE

I. Contracts

Formal research and development contracts with domestic, public, and private institutions and with private individuals and firms are made in accordance with the provisions of the Research and Marketing Act of 1946, 7 U.S.C. 427i and 1624. Section 427i relates to scientific research generally, including both basic and applied (e.g., utilization) research, while Section 1624 relates to distribution and marketing research. Both sections contain similar provisions that:

"Any contracts made pursuant to this authority shall contain requirements making the results of research and investigations available to the public through dedication, assignment to the Government, or such other means as the Secretary shall determine."

Accordingly, all contracts made under this provision contain a standard patent clause which states that:

"The public shall be granted all benefits of any patentable results of all research and investigations conducted and all information, data, and findings developed under this contract, through dedication, assignment to the Secretary, publication, or such other means as may be determined by the Contracting Officer."

Because the statute refers broadly to "assignment to the government" it has been interpreted to mean that no distinction was intended between domestic and foreign title, and the assignment taken is of the word-wide patent rights.

II. Grants Under Public Law 85-934 of 1958, 72 Stat. 1793

This statute provides for the making of grants for scientific research, to nonprofit institutions of higher education or to nonprofit organizations whose primary purpose is the conduct of scientific research, by those agencies which are authorized to enter into contracts for that purpose.

All grants made under Public Law 85-934 contain the same patent clause as contracts made under the Research and Marketing Act.

III. Foreign Agricultural Research Grants

Public Law 83-480, the Agricultural Trade Development and Assistance Act of 1954 (7 U.S.C. 1691-1736, 68 Stat. 454, as amended) provides in Section 1704k for the use of foreign currencies, obtained by the United States from sale of commodities abroad and from the principal and interest from loan repayments, for grants to friendly nations and organizations within such nations for coordinated research against disease and for other scientific research. Each grant agreement contains the following patent clause:

"The public shall be granted all benefits in the United States of America of any patentable results of all research and investigations conducted under this grant, through dedication, assignment to the Secretary of Agriculture, United States of America, publication, or such other means as may be determined by the Director. Rights to patentable results in countries other than the United States of America shall be in accordance with the policy of the grantee, provided that an irrevocable, nontransferable and royalty-free license to practice such invention throughout the world be issued to the United States Government."

IV. Cooperative Research

7 U.S.C. 1292c authorizes the Secretary of Agriculture to conduct cooperative research with public and private institutions and organizations, as well as with private individuals and firms. Such research is conducted under Cooperative Agreements and Memoranda of Understanding.

All such cooperative agreements contain a standard patent clause, as specified in Title 7, Section 185(d) of the Administrative Regulations of the U.S. Department of Agriculture. Where the agreement is with a private individual or firm, the essential features of the patent clause are as follows:

1. Joint inventions made by Department and cooperator employees are to be fully disclosed by publication or patenting in the United States, and any such patents are to be either dedicated or the domestic rights assigned to the government;

2. In the case of joint inventors, the government also acquires a six months option, from the time of filing of the U.S. application, to acquire the foreign patent rights; and

3. Inventions made independently by either the Department's or the cooperator's employees are to be disposed of in accordance with the respective policies of the Department of Agriculture or the cooperator.

Where the agreement is with a public organization, the patent clause contains the following provisions:

1. Any invention made jointly by a Department employee and an employee of the cooperator shall be fully disclosed either by publication or by patenting in the United States;

2. Any such United States patent shall either be dedicated or assigned to the government or to the cooperator, as may be mutually agreed upon by the parties;

3. In the event of assignment to the cooperator, nonexclusive, royalty-free licenses shall be issued by the cooperator to any and all applicants technically competent to make use of the patent;

4. The Department of Agriculture obtains an option to acquire the foreign patent rights in an invention on which a United States application has been filed, the option to expire if the government fails to file abroad within six months after the filing date of the domestic application; and

5. Inventions made independently by either the Department's or the cooperator's employees are disposed of in accordance with the respective policies of the Department of Agriculture or the cooperator.

NATIONAL SCIENCE FOUNDATION

I. Statutory Provisions

(National Science Foundation Act of 1950, 42 U.S.C. 1870(e) and 1871(a))

Section 11(e) of the Act authorizes the Foundation to hold and dispose of by grant, sale, lease, or loan real and personal property of all kinds necessary for, or resulting from, the exercise of authority granted by the Act. Section 12(a) of the Act requires that each Foundation contract or other arrangement relating to scientific research contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the contractor or grantee.

II. Foundation Policy

Generally, the Foundation believes that it is frequently appropriate to allow the contractor or grantee to retain title to patent rights, subject to a nonexclusive, royalty-free license to the United States for governmental purposes, because:

1. Most research supported by the Foundation involves basic scientific research which infrequently produces patentable inventions of commercial value; and

2. Most of the Foundation's arrangements are with nonprofit educational institutions which contribute substantially to the research through funds, facilities, manpower, and independently gained knowledge and experience.

A. Patent Provisions in Contracts

Contracts for research and development contain provisions which provide that:

1. The contractor will furnish complete information on any invention (whether or not patentable) made, conceived or first actually or constructively reduced to practice in the course of or under the contract;

2. The Foundation will have the right to determine whether or not and where a patent application shall be filed and the disposition of rights thereto, or whether the invention shall be published;

3. The contractor will obtain agreements from its employees in order to effectuate the determinations of the Foundation, and will place similar patent rights clauses in subcontracts; and

4. The contractor will receive license rights to inventions obtained by the Foundation at least as favorable as those offered to others.

B. Patent Provisions in Grants

There may be circumstances in a particular case where the contribution of the grantee or contractor is very minor or where the public interest requires it, as in the case of an invention affecting the public health or safety, or where there is a strong possibility of a very large financial benefit as a result of patent rights being obtained. In such cases, a clause may be used having provisions similar to the provisions listed as 1, 2, and 3 in paragraph A. above.

In all other grants in which a patent clause is appropriate, a clause is used providing that:

1. The grantee will furnish promptly a written disclosure of all inventions conceived or first actually reduced to practice in the performance

of work supported by the grant, together with a statement of whether patent applications are to be filed;

2. Upon application for patent on any such invention, the United States shall be granted an irrevocable, nonexclusive, royalty-free license for governmental purposes throughout the world;

3. The Foundation shall have the right to file for a patent in any country not selected by the grantee; and

4. In any case, whether or not a patent is to be filed, the Foundation may arrange for the invention to be described in a printed publication.

C. Control of Patent Royalties

Certain programs of the Foundation support the development of laboratory apparatus and demonstration equipment. These grants contain the patent clause leaving title in the grantee, but in addition, contain clauses which give the Foundation reviewing and approval authority over arrangements for commercial production including:

1. the distribution of proposals;
2. selection of manufacturers, publishers and distributors; and
3. negotiations and resulting agreements for the use, distribution, or disposition of books, films, patents, copyrights or other properties conceived or developed under the grant.

The clause also stipulates that income derived from royalties or sales be placed in a separate account by the grantee and utilized as determined by the Foundation.

DEPARTMENT OF INTERIOR

I. Statutory Provisions

Section 6 of the Coal Research Act of July 7, 1960, (74 Stat. 337, 30 U.S.C. 666), Section 46 of the Saline Water Conversion Act of September 22, 1961, (75 Stat. 628, 42 U.S.C. 1954b), and Section 4 of the Helium Act Amendments of September 13, 1960, (74 Stat. 920, 50 U.S.C. 167b) all require that all research contracted for or sponsored within the United States under these Acts shall provide that all information, uses, products, processes, patents, and other developments resulting from the research will be available to the general public, with such exceptions and limitations as the Secretary may find to be necessary in the interest of national defense.

II. Contract Provisions

In fulfillment of the above statutory provisions, the patent clauses in research and development contracts contain provisions that assure free use of subject inventions, which is defined as any invention, discovery, improvement or development (whether or not patentable) conceived or first actually reduced to practice in the performance of the experimental, developmental or research work called for or required under the contract.

A. Domestic Rights

The contract provisions regarding domestic rights may take the form of one of three options:

Option 1—Title in Government—Under this option, the contractor is re-

quired to promptly disclose subject inventions and grant to the government full and entire domestic right, title and interest;

Option 2—Joint Title in Government and Contractor—Under this option, the contractor agrees to disclose the invention and that title will be held jointly by the government and the contractor. After disclosure, the contractor is notified within 60 days whether (a) the government will file a patent application, (b) the government will reimburse the contractor for filing, or (c) the contractor may file at his own expense. If notification is not given the contractor may file at his own expense; and

Option 3—Title in Contractor—Under this option, the contractor must report an invention and may file a patent application, retaining title and giving the government an irrevocable, nonexclusive, nontransferable, royalty-free license with the right to grant sublicenses. If the contractor either elects not to file or fails to file within 6 months after reporting the invention, the government may file, taking title and giving the contractor a royalty-free, nonexclusive license.

B. Foreign Rights

The contract provisions regarding foreign rights to inventions resulting from research and development contracts give the contractor the first option to file in any foreign country by notifying the government of such intent within six months from the filing of a domestic application, the contractor taking title and giving the government an irrevocable, non-exclusive, royalty-free license with the right to grant sublicenses for government use. The government may file in any foreign country not selected by the contractor, or even in those selected, if the contractor does not file, or cause an application to be filed, in the selected countries within eight months after the filing of a domestic application. When the government files, title remains with the government subject to the contractor receiving an irrevocable, nonexclusive, royalty-free license with the right to grant sublicenses.

C. Background Patents

The contract provisions require the contractor to grant, upon request, a nonexclusive, nontransferable, royalty-free license to practice inventions covered in background patents necessary for the practice of subject inventions by or for the government. The provisions also require the contractor to license on reasonable terms any responsible applicant who requests a license under background patents necessary for the practice of subject inventions in the conversion of saline water to fresh water (in saline water contracts), or in the preparation and use of coal or its derivatives (in the coal research contracts).

III. Screening Agreements

Under these agreements, the Bureau of Sport Fisheries and Wildlife screens or tests chemicals submitted by private parties for possible utility in the animal control field for the prevention of plant damage. Rights to inventions resulting from such screening processes are determined as follows:

a. Where the supplier furnishes a compound without any prior knowledge of its probable effect related to the intended purpose, then the Bureau employee who demonstrates such properties shall be considered the inventor of the method or process employing the compound;

b. Where the Bureau merely confirms the supplier's suggested use and utility of the compound, the supplier's employee will be considered the inventor; and

c. Where the Bureau employee determines critical conditions necessary for effective use of a compound, or formulates a novel composition incorporating the compound, then the Bureau employee will be considered a sole or joint inventor depending upon the circumstances.

In all cases, the government and the supplier agree to give each other nonexclusive, nontransferable, royalty-free licenses to practice the invention.

IV. Cooperative Research Agreements

In cooperative research agreements, where both the government and private organizations supply personnel, equipment and facilities, rights to inventions made by government employees are taken by the government under the authority of Executive Order 10096, and rights to inventions made by employees of the cooperator are administered according to the practices of the cooperator. Each party agrees to grant to the other a royalty-free license, and the cooperator agrees to grant nonexclusive licenses under subject inventions held by it to any responsible applicant at reasonable royalties.

FEDERAL AVIATION AGENCY

Procurement Regulations

A. Policy

It is the policy of the Federal Aviation Agency to retain, for the benefit of the United States, rights to data and patents, in reasonable proportion to the contribution of the Agency and the contractor, and to recover the Agency's contribution toward research and development through royalties to the government upon commercial exploitation of the products developed thereby.

B. Patent Rights Clause

A patent rights clause is included in all contracts involving design, research, development, test or experimental work, and provides that:

1. The contractor must report and furnish information concerning any invention, improvement or discovery (whether or not patentable) which is conceived or first actually or constructively reduced to practice in the course of the contract;

2. The Administrator has the sole and exclusive right to determine whether, and where, patent applications will be filed and the rights thereto;

3. The contractor is required to take proper steps to effectuate the determinations of the Administrator and to include similar contract provisions in subcontracts having experimental, developmental or research work as one of its purposes; and

4. Where the government obtains patent rights, the contractor shall be offered license rights on terms at least as favorable as those offered to any other firm.

C. Recovery of Costs

In contracts for design, research, development, test or experimental work, where equipment or other items of hardware are to be furnished as

end items, a clause is added which is intended to recover the Agency's research and development costs upon commercial exploitation of products developed under the contract. The clause requires the contractor to pay the government up to

1. 5 percent of sums received by or credited to the contractor when it sells or leases to others than the government, and
2. 33 percent of all sums received by, or credited to, the contractor as royalties or payment for technical data under agreements permitting others to sell, lease or make

any equipment which is substantially the same in design as, or which is directly derived from that developed by the contractor in the performance of the contract.

DEPARTMENT OF COMMERCE

The Department of Commerce has not developed department-wide patent policies or regulations regarding distribution of rights to inventions resulting from government-sponsored research and development, but has allowed the subordinate bureaus and offices to adopt policies and practices best suited to their individual missions.

1. *ASPR Policy*—The National Bureau of Standards, the Bureau of the Census, the Maritime Administration, and the Coast and Geodetic Survey all have adopted a patent clause for research and development contracts which closely parallels that of the license clause of the Armed Services Procurement Regulations.

2. *Weather Bureau*—The Weather Bureau develops clauses in accordance with the specific objects of each contract. The standard patent rights clause used in research and development contracts, however, requires the contractor to grant to the government an irrevocable, nonexclusive, nontransferable, royalty-free license to practice, or cause to be practiced, throughout the world, by or on behalf of the United States or any foreign government pursuant to treaty, all or any part of the drawings, diagrams, technical information, design, and/or redesign features that are conceived or first actually reduced to practice in the performance of work under the contract.

3. *Bureau of Public Roads*—The Bureau uses a patent rights clause in research and development contracts which grants to the contractor all rights in resulting inventions subject to an irrevocable, nonexclusive, nontransferable, royalty-free license to the United States government and to all state highway departments.

4. *Area Redevelopment Administration*—The patent rights clause used in research and development contracts provides that:

a. The contractor must report and furnish information concerning any invention, improvement or discovery (whether or not patentable) which is conceived or first actually or constructively reduced to practice in the course of the contract;

b. The government has the sole and exclusive right to determine whether, and where, patent applications will be filed and the rights there-to;

c. The contractor is required to take proper steps to effectuate the determinations of the government and to include similar contract provisions

in subcontracts having experimental, developmental or research work as one of its purposes; and

d. Where the government obtains patent rights, the contractor shall be offered license rights on terms at least as favorable as those offered to any other firm.

HOUSING AND HOME FINANCE AGENCY

I. Statutory Provisions

Title III of the Housing Act of 1948, and amended, (12 U.S.C. 1701e) states that:

"All contracts made by the Administrator for technical research and studies authorized by this or any other Act shall contain requirements making the results of such research or studies available to the public through dedication, assignment to the Government, or such other means as the Administrator shall determine."

II. Contract Provisions

The patent rights clause used in research or study contracts provides that the patentable results of research and studies conducted under contract and all information, designs, specifications, know-how, data, and findings developed in the performance of the contract shall be made available to the public through dedication, assignment to the Government, publication, or by such other means as the Housing and Home Finance Administrator shall determine. The contractor agrees to cooperate in the preparation and prosecution, and to execute or secure the execution of documents needed in the filing and prosecution, of domestic and foreign patent applications which the government may decide to file.

CENTRAL INTELLIGENCE AGENCY

The Central Intelligence Agency follows the patent policy and guidance of the Armed Services Procurement Regulations.

APPENDIX B

Presidential Memorandum and Statement of Government Patent Policy Issued October 10, 1963

(Published Federal Register, Vol. 28, No. 200, October 12, 1963)

Memorandum for the Heads of Executive Departments and Agencies

Over the years, through Executive and Legislative actions, a variety of practices has developed within the Executive Branch affecting the disposition of rights to inventions made under contracts with outside organizations. It is not feasible to have complete uniformity of practice throughout the Government in view of the differing missions and statutory responsibilities of the several departments and agencies engaged in research and development. Nevertheless, there is need for greater consistency in agency practices in order to further the governmental and public interests in promoting the utilization of federally financed inventions and to avoid difficulties caused by different approaches by the agencies when dealing with the same class of organizations in comparable patent situations.

From the extensive and fruitful national discussions of government patent practices, significant common ground has come into view. First, a single presumption of ownership does not provide a satisfactory basis for government-wide policy on the allocation of rights to inventions. Another common ground of understanding is that the Government has a responsibility to foster the fullest exploitation of the inventions for the public benefit.

Attached for your guidance is a statement of government patent policy, which I have approved, identifying common objectives and criteria and setting forth the minimum rights that government agencies should acquire with regard to inventions made under their grants and contracts. This statement of policy seeks to protect the public interest by encouraging the Government to acquire the principal rights to inventions in situations where the nature of the work to be undertaken or the Government's past investment in the field of work favors full public access to resulting inventions. On the other hand, the policy recognizes that the public interest might also be served by according exclusive commercial rights to the contractor in situations where the contractor has an established non-governmental commercial position and where there is greater likelihood that the invention would be worked and put into civilian use than would be the case if the invention were made more freely available.

Wherever the contractor retains more than a non-exclusive license, the

policy would guard against failure to practice the invention by requiring that the contractor take effective steps within three years after the patent issues to bring the invention to the point of practical application or to make it available for licensing on reasonable terms. The Government would also have the right to insist on the granting of a license to others to the extent that the invention is required for public use by governmental regulations or to fulfill a health need, irrespective of the purpose of the contract.

The attached statement of policy will be reviewed after a reasonable period of trial in the light of the facts and experience accumulated. Accordingly, there should be continuing efforts to monitor, record, and evaluate the practices of the agencies pursuant to the policy guidelines.

This memorandum and the statement of policy shall be published in the Federal Register.

JOHN F. KENNEDY

STATEMENT OF GOVERNMENT PATENT POLICY

Basic Considerations

A. The government expends large sums for the conduct of research and development which results in a considerable number of inventions and discoveries.

B. The inventions in scientific and technological fields resulting from work performed under government contracts constitute a valuable national resource.

C. The use and practice of these inventions and discoveries should stimulate inventors, meet the needs of the government, recognize the equities of the contractor, and serve the public interest.

D. The public interest in a dynamic and efficient economy requires that efforts be made to encourage the expeditious development and civilian use of these inventions. Both the need for incentives to draw forth private initiatives to this end, and the need to promote healthy competition in industry must be weighed in the disposition of patent rights under government contracts. Where exclusive rights are acquired by the contractor, he remains subject to the provisions of the antitrust laws.

E. The public interest is also served by sharing of benefits of government-financed research and development with foreign countries to a degree consistent with our international programs and with the objectives of U.S. foreign policy.

F. There is growing importance attaching to the acquisition of foreign patent rights in furtherance of the interests of U.S. industry and the government.

G. The prudent administration of government research and development calls for a government-wide policy on the disposition of inventions made under government contracts reflecting common principles and objectives, to the extent consistent with the missions of the respective agencies. The policy must recognize the need for flexibility to accommodate special situations.

Policy

SECTION 1. The following basic policy is established for all government agencies with respect to inventions or discoveries made in the course of

or under any contract of any government agency, subject to specific statutes governing the disposition of patent rights of certain government agencies.

(a) Where

(1) a principal purpose of the contract is to create, develop or improve products, processes, or methods which are intended for commercial use (or which are otherwise intended to be made available for use) by the general public at home or abroad, or which will be required for such use by governmental regulations; or

(2) a principal purpose of the contract is for exploration into fields which directly concern the public health or public welfare; or

(3) the contract is in a field of science or technology in which there has been little significant experience outside of work funded by the government, or where the government has been the principal developer of the field, and the acquisition of exclusive rights at the time of contracting might confer on the contractor a preferred or dominant position; or

(4) the services of the contractor are

(i) for the operation of a government-owned research or production facility; or

(ii) for coordinating and directing the work of others, the government shall normally acquire or reserve the right to acquire the principal or exclusive rights throughout the world in and to any inventions made in the course of or under the contract. In exceptional circumstances the contractor may acquire greater rights than a non-exclusive license at the time of contracting, where the head of the department or agency certifies that such action will best serve the public interest. Greater rights may also be acquired by the contractor after the invention has been identified, where the invention when made in the course of or under the contract is not a primary object of the contract, provided the acquisition of such greater rights is consistent with the intent of this Section 1(a) and is a necessary incentive to call forth private risk capital and expense to bring the invention to the point of practical application.

(b) In other situations, where the purpose of the contract is to build upon existing knowledge or technology to develop information, products, processes, or methods for use by the government, and the work called for by the contract is in a field of technology in which the contractor has acquired technical competence (demonstrated by factors such as know-how, experience, and patent position) directly related to an area in which the contractor has an established nongovernmental commercial position, the contractor shall normally acquire the principal or exclusive rights throughout the world in and to any resulting inventions, subject to the government acquiring at least an irrevocable non-exclusive royalty free license throughout the world for governmental purposes.

(c) Where the commercial interests of the contractor are not sufficiently established to be covered by the criteria specified in Section 1(b), above, the determination of rights shall be made by the agency after the invention has been identified, in a manner deemed most likely to serve the public interest as expressed in this policy statement, taking particularly into account the intentions of the contractor to bring the invention to the point of commercial application and the guidelines of Section 1(a) hereof, provided that the agency may prescribe by regulation special situations where the public interest in the availability of the inventions would best be served by permitting the contractor to acquire at the time of contracting

greater rights than a non-exclusive license. In any case the government shall acquire at least a non-exclusive royalty free license throughout the world for governmental purposes.

(d) In the situation specified in Sections 1(b) and 1(c), when two or more potential contractors are judged to have presented proposals of equivalent merit, willingness to grant the government principal or exclusive rights in resulting inventions will be an additional factor in the evaluation of the proposals.

(e) Where the principal or exclusive (except as against the government) rights in an invention remain in the contractor, he should agree to provide written reports at reasonable intervals, when requested by the government, on the commercial use that is being made or is intended to be made of inventions made under government contracts.

(f) Where the principal or exclusive (except as against the government) rights in an invention remain in the contractor, unless the contractor, his licensee, or his assignee has taken effective steps within three years after a patent issues on the invention to bring the invention to the point of practical application or has made the invention available for licensing royalty free or on terms that are reasonable in the circumstances, or can show cause why he should retain the principal or exclusive rights for a further period of time, the government shall have the right to require the granting of a license to an applicant on a non-exclusive royalty free basis.

(g) Where the principal or exclusive (except as against the government) rights to an invention are acquired by the contractor, the government shall have the right to require the granting of a license to an applicant royalty free or on terms that are reasonable in the circumstances to the extent that the invention is required for public use by governmental regulations or as may be necessary to fulfill health needs, or for other public purposes stipulated in the contract.

(h) Where the government may acquire the principal rights and does not elect to secure a patent in a foreign country, the contractor may file and retain the principal or exclusive foreign rights subject to retention by the government of at least a royalty free license for governmental purposes and on behalf of any foreign government pursuant to any existing or future treaty or agreement with the United States.

SECTION 2. Government-owned patents shall be made available and the technological advances covered thereby brought into being in the shortest time possible through dedication or licensing and shall be listed in official government publications or otherwise.

SECTION 3. The Federal Council for Science and Technology in consultation with the Department of Justice shall prepare at least annually a report concerning the effectiveness of this policy, including recommendations for revision or modification as necessary in light of the practices and determinations of the agencies in the disposition of patent rights under their contracts. A patent advisory panel is to be established under the Federal Council for Science and Technology to

(a) develop by mutual consultation and coordination with the agencies common guidelines for the implementation of this policy, consistent with existing statutes, and to provide overall guidance as to disposition of inventions and patents in which the government has any right or interest; and

(b) encourage the acquisition of data by government agencies on the disposition of patent rights to inventions resulting from federally-financed

research and development and on the use and practice of such inventions, to serve as basis for policy review and development; and

(c) make recommendations for advancing the use and exploitation of government-owned domestic and foreign patents.

SECTION 4. Definitions: As used in this policy statement, the stated terms in singular and plural are defined as follows for the purposes hereof:

(a) *Government agency*—includes any Executive department, independent commission, board, office, agency, administration, authority, or other government establishment of the Executive Branch of the Government of the United States of America.

(b) *Invention or Invention or discovery*—includes any art, machine, manufacture, design, or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the Patent Laws of the United States of America or any foreign country.

(c) *Contractor*—means any individual, partnership, public or private corporation, association, institution, or other entity which is a party to the contract.

(d) *Contract*—means any actual or proposed contract, agreement, grant, or other arrangement, or sub-contract entered into with or for the benefit of the government where a purpose of the contract is the conduct of experimental, developmental, or research work.

(e) *Made*—when used in relation to any invention or discovery means the conception or first actual reduction to practice of such invention in the course of or under the contract.

(f) *Governmental purpose*—means the right of the Government of the United States (including any agency thereof, state, or domestic municipal government) to practice and have practiced (made or have made, used or have used, sold or have sold) throughout the world by or on behalf of the Government of the United States.

(g) *To the point of practical application*—means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine and under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

APPENDIX C

Patent Advisory Panel of the Federal Council for Science and Technology

Membership List

Dr. William W. Eaton, Chairman
Deputy Assistant Secretary for Science and Technology
Department of Commerce

Jonathan Silverstone
Assistant General Counsel
Agency for International
Development

W. D. Maclay
Assistant Administrator
Agricultural Research Service
Department of Agriculture

Roland A. Anderson
Assistant General Counsel for
Patents
Atomic Energy Commission

Wilfred H. Rommel
Deputy Chief, Office of Legislative
Reference
Bureau of the Budget

Oliver E. Pagan
Assistant General Counsel
Central Intelligence Agency

Graeme C. Bannerman
Deputy Assistant Secretary of
Defense (Procurement)
Department of Defense

Joseph D. Blatt
Director, Systems Research and
Development Service
Federal Aviation Agency

Philip G. Read
Chief Counsel for Procurement
Policy
General Services Administration

James Quigley
Assistant Secretary
Department of Health, Education
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David J. Speck
Attorney Adviser
Housing and Home Finance Agency

Ernest S. Cohen
Assistant Solicitor
Department of the Interior

Miles F. Ryan
Attorney, Antitrust Division
Department of Justice

Gerald D. O'Brien
Assistant General Counsel for
Patent Matters
National Aeronautics and Space
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William J. Hoff
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Edward J. Brenner
Commissioner of Patents
U.S. Patent Office

Eugene J. Davidson
Assistant General Counsel
Small Business Administration

Harold A. Levin
Chief, International Business
Practices Division
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Duane Dunlap
Assistant General Counsel
Tennessee Valley Authority

G. d'Andelot Belin
General Counsel
Department of the Treasury

David Z. Beckler
Assistant to the Director
Office of Science and Technology

Harry V. Lerner
Office of General Counsel
Veterans Administration

James E. Denny
Executive Secretary
Department of Commerce

